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10/541,996	04/10/2006	Yoshiki Nakagawa	UNIU110.001APC	6606

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EXAMINER	
BOYLE, ROBERT C	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
12/16/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/541,996	NAKAGAWA ET AL.	
	Examiner	Art Unit	
	ROBERT C. BOYLE	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 September 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *57-59,62-69 and 77-85* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☒ Claim(s) *57* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Any rejections stated in the previous Office Action and not repeated below are withdrawn. In particular, the objection to claim 57 has been withdrawn in view of the amendment. The 112 rejections of claims 57-58, 66, 70 and 78 have been withdrawn in view of the amendments.

3. The 112 rejection of claim 77 has been withdrawn because the term "one-component composition is a term of art used when the composition does not contain any components added after the initial mixing of the composition (Instant Application: pg. 57). Thus, a "one-component composition" may have more than one component as noted by the specification: "may be prepared in the form of a one-component composition by previously mixing all components, hermetically conserving the obtained mixture, and curing it with moisture…" (pg 57, ln. 9-12).

4. The new grounds of rejection set forth below are necessitated by applicant's amendment filed on September 12, 2009. In particular, claim 57 has been amended to include the limitations from claims 60-61 and 72. This presents the claims in a manner with a scope not previously examined. Thus, the following action is properly made FINAL.

Double Patenting

5. Claims 57-59, 63-65, 78-85 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 7,388,038.

6. The rejection is adequately set forth in paragraphs 5-6 in the office action mailed on 6/25/2009 and is incorporated here by reference.

International Search Report

7. The International Search Report ("ISR") for PCT/JP04/00356, of which the instant application is a National Stage entry of, presents seven documents that are of particular relevance. Five of these documents are assigned to the Kaneka Corporation just as the prior art used below, and have substantial overlap with the prior art used below. JP 10-120724 and JP 09-143329 appear relevant because both teach silyl containing vinyl polymers and amine compositions, but have not been used in the rejections below because the prior art used below adequately sets forth basis for rejection of the claims.

Claim Objections

8. Claim 57 is objected to because of the following informalities: amended claim 57 recites "said vinyl polymer (I) has a methyl acrylate or methyl methacrylate a constituent unit". It is believed that the "a" before "constituent" grammatically was meant to be an "as". Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. Claim 57-59, 62-65, 77-81, 83-85 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujita et al., (US 7,388,038) ("**Patent '038**").

10. As to claims 57-59, Patent '038 teaches a curable composition containing two components (A) a vinyl polymer, made with monomers such as methyl methacrylate or methyl acrylate, where the polymer has at least one crosslinking silyl group of the formula (1) at the terminus of the chain and (B) a curing catalyst which includes amines (abstract; col. 3, ln. 62- col. 4, ln. 47; col. 5, ln. 1-55; col. 15, ln. 20- col. 16, ln. 26; col. 25, ln. 44- col. 26, ln. 60).

11. Claim 62 recites a property of the claimed polymers, being at a liquid state at 23°C; and Patent '038 teaches the same polymers as currently claimed. It is therefore inherent that the polymers of Patent '038 are liquid at 23°C since such a property is evidently dependent on the nature of the composition used. Case law holds that a material and its properties are inseparable. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

12. As to claims 63-64, Patent '038 teaches forming the polymer by living radical polymerization and atom transfer polymerization (col. 6, ln. 14- col. 9, ln. 17).

13. As to claim 65, Patent '038 teaches the Mw/Mn of less than 1.8 (col. 5, ln. 56-67).

14. As to claim 77, Patent '038 teaches one-component compositions (col. 29, ln. 31-39).

15. As to claims 78-80, Patent '038 teaches using a condensation curing catalyst such as dibutyl tin dilaurate or butyl amine (col. 25, ln. 44-65).

16. As to claim 81, Patent '038 teaches amino coupling agents such as aminopropyltrimethoxysilane (col. 26, ln. 63- col. 27, ln. 61).

17. As to claims 83-85, Patent '038 teaches the gaskets, sealants and adhesives formed from the curable compositions (col. 29, ln. 40-52).

18. Claims 57-59, 62-65, 77-81, 83-85 are rejected under 35 U.S.C. 102(b) as being anticipated by **Fujita** (WO 00/20498). As the cited WO publication is in a non-English language, the English equivalent, US 2004/0029990 ("Fujita"), has been utilized in place of WO '498. All column and line number citations are made with respect to the above mentioned U.S. document.

19. As to claims 57-59, Fujuta teaches a curable composition containing two components (A) a vinyl polymer, made with monomers such as methyl methacrylate or methyl acrylate, where the polymer has at least one crosslinking silyl group of the formula (1) at the terminus of the chain and (B) a curing catalyst which includes amines (abstract; ¶ 16-29, 37-39, 121-123, 227-228).

20. Claim 62 recites a property of the claimed polymers, being at a liquid state at 23°C; and Fujita teaches the same polymers as currently claimed. It is therefore inherent that the polymers of Fujita are liquid at 23°C since such a property is evidently dependent on the nature of the composition used. Case law holds that a material and its properties are inseparable. *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

21. As to claims 63-64, Fujita teaches forming the polymer by living radical polymerization and atom transfer polymerization (¶ 41-111).

22. As to claim 65, Fujita teaches the Mw/Mn of less than 1.8 (¶ 38).

23. As to claim 77, Fujita teaches one-component systems (¶ 252).

24. As to claims 78-80, Fujita teaches using a condensation curing catalyst such as dibutyl tin dilaurate or butyl amine (¶ 227-233).

25. As to claim 81, Fujita teaches amino coupling agents such as aminopropyltrimethoxysilane (¶ 227-233).

26. As to claims 83-85, Patent '038 teaches the gaskets, sealants and adhesives formed from the curable compositions (column 29, lines 40-52).

Claim Rejections - 35 USC § 103

27. Claims 66-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Fujita** (WO 00/20498). As the cited WO publication is in a non-English language, the English equivalent, US 2004/0029990 ("Fujita"), has been utilized in place of WO '498. All column and line number citations are made with respect to the above mentioned U.S. document. The discussion with respect to Fujita as set forth in paragraphs 18-26 above is incorporated here by reference.

28. As to claims 66, 69, Fujuta teaches a curable composition containing two components (A) a vinyl polymer, made with monomers such as methyl methacrylate or methyl acrylate, where the polymer has at least one crosslinking silyl group of the formula (1) at the terminus of the chain and (B) a curing catalyst which includes amines, and the addition of dialkyl ester compounds such as butyl oleate, dioctyl adipate, isodecyl succinate, dioctyl sebacate, and dibutyl sebacate can be added (abstract; ¶ 16-29, 37-39, 121-123, 227-228, 242). Fujita does not teach using dimethyl derivatives of the ester compounds.

29. However, Fujita teaches that plasticizers such as butyl oleate, dioctyl adipate, isodecyl succinate, dioctyl sebacate, and dibutyl sebacate can be added (¶ 242). While the esters and diesters are not methyl esters, it is the examiner's position that it would have been obvious to one of ordinary skill in the art to expect similar beneficial results with compounds having only additional $-CH_2-$ groups. Case laws holds that homologs (compounds differing regularly by the successive addition of the same chemical group, e.g,. by $-CH_2-$ groups) are generally of

sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 563 F.2d 457, 195 USPQ 426 (CCPA 1977). Therefore, using the methyl derivatives of the above diesters would have been obvious.

30. As to claims 67-68, Fujita teaches the vinyl polymer contains monomers such as methyl methacrylate and methyl acrylate (¶ 37).

31. Claims 66-69 are is rejected under 35 U.S.C. 103(a) as being unpatentable over **Fujita** in view of **Furukawa** (US 4,482,678). The discussion with respect to Fujita as set forth in paragraphs 18-30 above is incorporated here by reference.

32. As to claims 66, 69, Fujuta teaches a curable composition containing two components (A) a vinyl polymer, made with monomers such as methyl methacrylate or methyl acrylate, where the polymer has at least one crosslinking silyl group of the formula (1) at the terminus of the chain and (B) a curing catalyst which includes amines, and the addition of dialkyl ester compounds such as butyl oleate, dioctyl adipate, isodecyl succinate, dioctyl sebacate, and dibutyl sebacate can be added (abstract; ¶ 16-29, 37-39, 121-123, 227-228, 242). Fujita does not teach using dimethyl derivatives of the ester compounds.

33. However, in view of Furukawa's recognition that dimethyl adipate and dioctyl adipate are equivalent and interchangeable (Furukawa: col. 3, ln. 44-col. 4, ln. 5), it would have been obvious to one of ordinary skill in the art to substitute dioctyl adipate with dimethyl adipate and thereby arrive at the present invention. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of

invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See *In re Ruff* 118 USPQ 343 (CCPA 1958).

34. As to claims 67-68, Fujita teaches the vinyl polymer contains monomers such as methyl methacrylate and methyl acrylate (¶ 37).

35. Claim 82 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Fujita** in view of **Inoue** et al. (US 6,255,392). The discussion with respect to Fujita as set forth in paragraphs 37-39 above is incorporated here by reference. The discussion with respect to Fujita as set forth in paragraphs 18-34 above is incorporated here by reference.

36. As to claim 82, Fujuta teaches a curable composition containing two components (A) a vinyl polymer, made with monomers such as methyl methacrylate or methyl acrylate, where the polymer has at least one crosslinking silyl group of the formula (1) at the terminus of the chain and (B) a curing catalyst which includes amines (abstract; ¶ 16-29, 37-39, 121-123, 227-228). Fujita does not teach adding a second polymer.

37. Inoue teaches the addition of a vinyl polymer containing (A) a hydrolysable silyl group added to (B) a compound containing no silyl groups, where (B) may be vinyl copolymers with 7-50 wt% hydroxyl containing monomer and the remainder is a second monomer, which includes methyl methacrylate and the ester of acrylic acid which are added to a curing component such as amines (abstract; column 2, lines 20-61; column 10, line 60-column 12, line 31; column 17, line 25-column 18, line 17). It would have been obvious to add the second polymer as taught by Inoue with the curable composition of Fujuta because using the polymers of Inoue increases the

durability of the cured composition and adds to acid resistance and weatherability (Inoue: column 1, lines 40-49; column 20, lines 1-8).

Response to Arguments

38. Applicant's arguments filed September 12, 2009 have been fully considered but they are not persuasive.

39. Applicant argues that patent 7,388,038 does not qualify under 102(e) as prior art because the PCT application was published in a language other than English.

40. However, the filing date relied on is not the international filing date. Patent '038 is a division of application No. 10/635,666, filed on August 7, 2003, which is a continuation of application No. 09/807,038, filed on July 23, 2001. Therefore, Patent '038 has an effective 102(e) date or effective filing date before the instant application.

41. It is observed that the present application claims foreign priority to Japanese documents having a filing date of 1/22/03. But given that US '308 has an effective 102(e) filing date of 7/23/01 (stemming, as explained above, from continuity to grandparent US application 09/807,038) which is earlier than applicant's foreign priority date, hence said foreign priority date cannot disqualify the use of US '308.

42. It is noted that Applicant has a statement of common ownership for the instant application and Fujita (US 7,388,038). See Remarks, filed 9/23/2009, pg. 7. Therefore, Patent '038 is disqualified as prior art in any 103 rejection (MPEP 2136.01(II)).

43. Applicant argues that Fujita does not teach the specific embodiments of methyl acrylates or methacrylates with amines. This is not persuasive.

44. Fujita teaches several examples where a butyl acrylate is used with triamines (¶ 607-614, 624, 629) and Fujita teaches the vinyl monomer may constitute methyl methacrylate (¶ 37). While no specific examples using methyl methacrylate are provided, this is because butyl acrylate is a preferred embodiment, as evidenced by "butyl acrylate is particularly preferred" (¶ 37), making methyl methacrylate a non-preferred embodiment. A preferred embodiment is not controlling, rather, all disclosures "including unpreferred embodiments" must be considered. *In re Lamberti* 192 USPQ 278, 280 (CCPA 1976) citing *In re Mills* 176 USPQ 196 (CCPA 1972).

45. The recitation of the dimethyl esters in claim 57 has no bearing on the application of Fujita to claim 57 because the Markush group is in the alternative: "wherein: said vinyl polymer (I) has a methyl acrylate or methyl methacrylate monomer as a constituent unit; or..." and it is not necessary for Fujita to teach the dimethyl esters to fall within the scope of claim 57.

46. Applicant argues that Tables 1-5 and examples 3-5, 22-23 show unexpected results compared to comparative examples 3-4, 11-13.

47. Applicant's arguments comparing Examples 3-5, teaching butyl acrylate/methyl acrylate copolymers, to Comparative Examples 3-4, teaching butyl acrylate homopolymers, is not persuasive because the Fujita teaches a methyl ester (¶ 37). Furthermore, the data presented does not show a trend that would support a conclusion of unexpectedness. For example, the 'surprising' results shown in Tables 1-2 might be due to the use of a copolymer as opposed to a homopolymer, and that any acrylate, not just methyl acrylates, would result in better properties.

48. Table 3 compares the use of methyl adipate, methyl oleate, methyl stearate, methyl sebacate with diisodecyl phthalate. This comparison does not show unexpectedness because the methyl esters are all mono-methyl esters, compared to the claimed dimethyl esters. The improved properties could be due to the free acid group present in the methyl adipate, methyl oleate, methyl stearate, and methyl sebacate.

49. Examples 22-23 add DMA whereas Comparative Examples 11-13 do not. Tables 4-5 show a decreased cure time. However, this does not amount to unexpected results because the DMA is a crosslinking agent for acrylate polymers (for example, see Mitchell, US 2001/0001312, ¶ 104) and Fujita teaches dialkyl esters act as a plasticizer (Fujita: ¶ 242). It is the examiner's position that one of ordinary skill in the art would expect the curing time to decrease with the addition of an additional crosslinking agent or plasticizer. Furthermore, Tables 4-5 do not show how the dimethyl derivative gives unexpected results over using other dialkyl derivatives.

50. Because the data provided in Tables 1-5 do not support a finding of unexpected results, Applicant's arguments are not persuasive.

51. Regarding the Double Patenting rejection over Patent '038, the scope of the amended claims continues to overlap the claims of Patent '038 because the vinyl polymer of Patent '038 includes methyl acrylates (col. 5, ln. 1-55) and the limitation regarding compound II is in the alternative: "wherein: said vinyl polymer (I) has a methyl acrylate or methyl methacrylate monomer as a constituent unit; or...". Therefore, the Double Patenting rejections of claims 57-59, 63-65, 78-85 are maintained.

Conclusion

52. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT C. BOYLE whose telephone number is (571)270-7347. The examiner can normally be reached on Monday-Thursday, 9:00AM-5:00PM Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571)272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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